Reviewer's report

Title: Health and Demographic Surveillance Systems: A Step towards Full Vital Registration in Sub Sahara Africa?

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Reviewer: J. Ties Boerma

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This paper addresses an important public health issue: the lack of birth and death registration, with reliable causes of death, in many low and lower middle income countries. The development of a full civil registration and vital statistics system (CRVS, this is the correct term) will take time and the authors propose that local health and demographic surveillance studies (HDSS) and sample registration system (SRS) are ways to address this gap in the short run.

The argument that HDSS can be an important source of information for countries is underpinned by a series of examples of the use of HDSS in country health policy making. At the same time, it would be necessary if the paper also discussed the weaknesses of the HDSS in greater detail. Some aspects such as the local nature of the data are mentioned but there are others such as (1) the general track record of HDSS to provide timely data on e.g. causes of death is generally weak. This affects for instance the use of HDSS data in annual health sector reviews. (2) the fact that HDSS often needs research money to run the site which implies interventions, making the HDSS less typical for the country.

There is a need for a very careful assessment of the SRS approach. The India system has its strengths and weaknesses, but it seems that the country is stuck in this approach rather than moving towards a full CRVS. In China, a combination of CRVS and demographic surveillance is used, but also progress towards a full CRVS has been lacking for a long time. The development of a SRS totally reliant on external funding is bound to fail when the donor pulls out, as for instance happened with the AMMP in Tanzania. And too much reliance on the Ministry of Health also seems to be a weak point as continues data collection and analysis investments is generally not a priority in the Ministry of Health, unless it is directly related to service provision.

The bottom line is that there is no evidence that a stepwise approach from HDSS to SRS to CRVS is working. In fact, the Statistical Community argues the opposite argument: that investing in SRS will compete for scarce resources with the efforts to establish a full CRVS. The arguments therefore need to be presented very cautiously, weighing all the positive and negative factors. The paper should address this issues better.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests'